Cheyenne Goh

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Citizenship: Canada and Singapore

SUMMARY

Recent software engineering graduate from the University of Calgary with 20 months of internship experience in software development using C++ and Python. Incoming postgraduate student at the University of Limerick.

EDUCATION

Master of Science in Artificial Intelligence and Machine Learning   **Aug 2025**
University of Limerick – Limerick, Ireland

- **Awards:** University of Limerick Postgraduate Scholarship for International Students

Bachelor of Science With Distinction in Software Engineering   **May 2024**
Schulich School of Engineering, University of Calgary – Calgary, Alberta, Canada   GPA: 3.50/4.0

- **Minor:** Mechatronics
- **Modules:** Software Requirements/Architecture/Development/Testing/Performance Evaluation, Database Management Systems, Data Structures and Algorithms, Computer Graphics, Machine Learning, Operating Systems, Computer Networks, Embedded System Interfacing, Digital/Electrical Circuits, Signals and Transforms, Control Systems, Mechatronics, Robotics, Mechanics (Statics/Dynamics), Project Management, Professional Technical Communication
- **Awards:** 2021/2022 Schulich School of Engineering Dean's List, Schulich School of Engineering Dean's Entrance Scholarship, University of Calgary Entrance Scholarship, Alexander Rutherford Scholarship
- Programme accredited by Canadian Engineering Accreditation Board (Washington Accord)

Alberta High School Diploma   **Jun 2017**
Leduc Composite High School – Leduc, Alberta, Canada   Mark: 93.8/100

Certifications

- Machine Learning – *DeepLearning.AI, Stanford University (Coursera, 2023)*
- C# Programming for Unity Game Development – *University of Colorado System (Coursera, 2023)*

EXPERIENCE

GPU Compute Software Intern   **May 2022 – Aug 2023**
Advanced Micro Devices, Inc. (AMD) – Calgary, Alberta, Canada

- Contributed features and bug fixes to rocFFT/hipFFT, an open-source C++ maths library for computing Fast Fourier Transforms in the ROCm GPU software stack for AI, Machine Learning, and High-Performance Computing
- Reworked method for testing inverse Fourier transforms in the rocFFT GoogleTest test suite to yield a 10% improvement in the overall test run time by adding asynchronous optimisations and reducing external library calls
- Prototyped compute kernels with Python and C++ to improve the performance of real-complex transforms in rocFFT and presented a display on the topic as a finalist for the 2023 AMD Canada Innovation Showcase in Markham, Ontario, Canada
- Incorporated utility in the rocFFT performance testing Python script for measuring raw bandwidth efficiency and processing the data to determine median duration and efficiency
- Validated rocFFT/hipFFT library on AMD RDNA3 hardware, ensuring adequate functionality and performance on both Linux and Windows operating systems before the global product launch

Design Engineering Summer Intern   **May 2021 – Sept 2021**
Flexcim Manufacturing Services Inc. – Edmonton, Alberta, Canada

- Developed a Python program to retrieve Human-Machine Interface inputs and Programmable Logic Controller sensor data from plastic injection moulding machines and display data from MySQL on the HMI via Modbus TCP
- Integrated functionality in the program to continually collect hundreds of data entries daily for every injection moulding cycle in a MySQL database for analysis to assist in optimising production
- Performed a complete software rewrite of a dated DOS operations tracking program using the Python Tkinter GUI toolkit and a MySQL database to improve usability, maintainability, and portability

SKILLS

- **Languages:** Python, C/C++, C#, Java, JavaScript, MATLAB/Simulink, MIPS Assembly, PLC Ladder Logic, HTML/CSS, SQL, UML, LaTeX
- **Technologies:** TensorFlow, PyTorch, HIP, Vulkan, GLSL, CMake, React, Unity, Processing, MySQL, Git, Linux, PIC Microcontroller, Arduino, QUARC, Quartus, ModelSim, SolidWorks
- **Concepts:** Machine Learning, GPU Programming, Concurrent Programming, Graphics Programming, Object-Oriented Programming, Control Systems, Robotics

PROJECTS

Capstone Design Project – Sponsored by Garmin Canada   **Aug 2023 – Apr 2024**

- Teamed up with three fellow students to design a system that recognises four distinct hand gestures from sensor data from a Garmin Venu 2 Plus smartwatch and performs associated actions on an Android device
- Led the development of a machine learning model by building a Convolutional Neural Network with PyTorch, training the model with sensor data collected by team members, and integrating the model in the Android application using TensorFlow Lite, resulting in a model with over 99% accuracy
- Awarded second place out of 25 final year projects in the Software Engineering category at the University of Calgary's 2024 Engineering Design Fair

Hack Your Learning Hackathon   **Mar 2021**

- Built a user-friendly application that facilitates supply chain management of furniture inventory in a MySQL database
- Collaborated remotely in a team of four using Java to receive requests, compute the most cost-effective order fulfilment, modify the database, and produce an order form
- Presented a brief video demonstration to a panel of five judges and made appropriate UX revisions based on feedback provided by industry experts from Canada, Greece, and the United States

EXTRACURRICULAR

Speed Skating Coach   **Sept 2023 – Mar 2024**

- Instructed beginner and introductory speed skaters aged 10 and under on short and long track with Calgary Speed Skating Association

Olympic Short Track Speed Skater   **Oct 2012 – Feb 2021**

- Represented Singapore in the 1500-m short track speed skating event at the PyeongChang 2018 Olympic Winter Games
- Trained 30-40 hours per week for three years with the Olympic Oval Elite Athlete Pathway Programme as a full-time student